

## § 64.57

- (a) Is the highest practical point of the tank; and
- (b) Allows direct communication with the vapor space.

## Subpart C—Pressure Relief Devices and Vacuum Relief Devices for MPTs

### § 64.57 Acceptance of pressure relief devices.

A pressure relief device for an MPT must be—

- (a) From a supplier<sup>2</sup> accepted under chapter I of title 46, Code of Federal Regulations; or
- (b) Accepted by the Coast Guard in accordance with the procedures in § 50.25–10 of this chapter.

[CGD 84–043, 55 FR 37410, Sept. 11, 1990]

### § 64.59 Spring loaded pressure relief valve.

A spring loaded pressure relief valve must—

- (a) Be set at a nominal pressure of 125 percent of the maximum allowable working pressure;
- (b) Have a minimum normal venting capacity that is sufficient to prevent the tank pressure from exceeding 137.5 percent of the maximum allowable working pressure;
- (c) Close after discharge of a pressure not lower than 115 percent of the maximum allowable working pressure; and
- (d) If closed, remain closed at any pressure less than 115 percent of the maximum allowable working pressure.

### § 64.61 Rupture disc.

If a rupture disc is the only pressure relief device on the tank, the rupture disc must—

- (a) Rupture at a pressure of 125 percent of the maximum allowable working pressure; and
- (b) Have a minimum normal venting capacity that is sufficient to prevent the tank pressure from exceeding 137.5 percent of the maximum allowable working pressure.

<sup>2</sup> Accepted suppliers are listed in CG–190, *Equipment list*.

## 46 CFR Ch. I (10–1–14 Edition)

### § 64.63 Minimum emergency venting capacity.

- (a) The total emergency venting capacity ( $Q$ ) of the relief devices of an uninsulated MPT must be in accordance with Table 1 or the following formula based upon the pressure relief device operating at a pressure not to exceed the test pressure:

$$Q = 633,000 \left( \frac{A^{0.82}}{LC} \right) \sqrt{\frac{ZT}{M}}$$

where:

$Q$ =Minimum required rate of discharge in cubic feet per minute of free air at standard conditions (60 °F and 14.7 psia).

$M$ =Molecular weight of the product, or 86.7.

$T$ =Temperature, degrees Rankine (460° + temperature in degrees F of gas at relieving temperature), or 710° Rankine.

$A$ =Total external surface area of the tank compartment in square feet.

$L$ =Latent heat of the product being vaporized at relieving conditions in Btu per pound, or 144 Btu per pound.

$Z$ =Compressibility factor of the gas at relieving conditions, or 1.0.

$C$ =Constant based on relation of specific heats, in accordance with appendix J of division 1 of section VIII of the ASME Code, 1974 edition, or 315.

- (b) The total emergency venting capacity ( $Q$ ) of an insulated portable tank may have a reduction if—

- (1) It is shown to the Coast Guard that the insulation reduces the heat transmission to the tank;
- (2) The present reduction of the emergency venting capacity ( $Q$ ) is limited to the percent reduction of the heat transmission to the tank or 50 percent, whichever is less; and
- (3) The insulation is sheathed.

TABLE 1—MINIMUM EMERGENCY VENTING CAPACITY IN CUBIC FEET: FREE AIR/HOUR (14.7 LB/IN<sup>2</sup>A AND 60 °F)

Exposed area square feet <sup>1</sup>	Cubic feet free air per hour	Exposed area square feet <sup>1</sup>	Cubic feet free air per hour
20	27,600	275	237,000
30	38,500	300	256,000
40	48,600	350	289,500
50	58,600	400	322,100
60	67,700	450	355,900
70	77,000	500	391,000
80	85,500	550	417,500
90	94,800	600	450,000
100	104,000	650	479,000
120	121,000	700	512,000